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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,898

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Gerd Hexels

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20210 7590 03/09/2009  
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EXAMINER

HOEY, ALISSA L

ART UNIT

PAPER NUMBER

3765

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,898	<b>Applicant(s)</b> HEXELS, GERD	
	<b>Examiner</b> Alissa L. Hoey	<b>Art Unit</b> 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37, 41, 42, 45-50, 53-55, 57-62, 64 and 71 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37, 41, 42, 45-50, 53-55, 57-62, 64 and 71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

This is in response to amendment received on 01/12/09. Claims are examined below.

### ***Claim Objections***

1. Claim 37 is objected to because of the following informalities: “the seams” has no antecedent basis. Appropriate correction is required.
2. Claim 55 is objected to because of the following informalities: claim 55 calls for active spherules of carbon, but independent claim 37 requires carbon in the fibrous form. Appropriate correction is required.
3. Claims 59 and 71 are objected to because of the following informalities: claim 59 and 71 call for a “textile ply”, which ply are you referring to “the inner textile ply or the second textile ply? Please amend claim 59 and 71 to better define the textile ply. Appropriate correction is required.
4. Claims 41, 42 and 64 are objected to because of the following informalities: claims 41, 42 and 64 all detail the stitched seams of the garment, yet dependent claim 37 requires that the plies are seamed by bonding, not stitching. Appropriate correction is required.
5. Claim 47 is objected to because of the following informalities: there is no antecedent basis for “the seams”. Appropriate correction is required.

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6. Claim 48 is objected to because of the following informalities: there is no antecedent basis for "the inner sock" and "the seams". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 57 is rejected under 35 U.S.C. 102(b) as being anticipated by Stelzmuller et al. (US 5,731,065).

Stelzmuller teaches the following:

57. (CURRENTLY AMENDED) A lower leg protective apparel for, providing protection from one of chemical and biological noxiants, the lower leg protective , apparel having a plurality of plies and comprising: an outersock (1a), a laminate, disposed on an inner side of the outersock (1a), comprising; a flexible, windproof and water-rejecting membrane (3a, 2a) which forms the outer, surface of the laminate and which forms at least a barrier to biological noxiants, a carbon layer (4a) which is disposed underneath the membrane (3a, 2a) and, comprises a fabric of loop-drawingly knit activated carbon fibers (figure 2: column 3, lines 1-8).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 37, 41, 42, 45, 48-50, 53, 54, 58-62, 64 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelzmuller et al. in view of Jones et al. (US 4,932,078).

In regard to claim 37, Stelzmuller et al. teaches a lower leg protective apparel for providing protection from one of chemical and biological noxiants (column 1, lines 7-11), the lower leg protective apparel having a plurality of plies and comprising:

an outersock (1a) a laminate, disposed on an inner side of the outersock (1a), which comprises a flexible, windproof, breathable and water-rejecting membrane (2a, 3a) which forms the outer surface of the laminate and which forms at least a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants (column 6, lines 21-43),

a carbon layer (4a) which is disposed underneath the membrane (2a, 3a) and which comprises carbon in one of a fibrous or particulate form, and ~,

an inner textile ply (column 3, lines 1-8 and column 6, lines 43-47)), and ~,

an innersock (5a) disposed as a second textile ply on an inner side of the laminate, the outersock (1a), the laminate (3a, 2a, 4a, 5a) and the innersock (6a) are bonded to one another as a single unit (column 7, lines 23-31).

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However, Stelzmuller et al. fails to teach wherein at least one of the outersock and the innersock is fabricated from a plurality of cuts, the seams between the cuts being sealed by a seam-sealing tape comprising a waterproof material.

Jones et al. teaches a protective garment that is formed of a plurality of cuts with seams being sealed off by a sealing tape, comprising a waterproof material (column 4, lines 57-63: figures 1).

In regard to claim 41, Jones et al. teaches wherein the plurality of piles are sewn together (column 4, lines 57-63: figure 1).

In regard to claim 42, Jones et al. teaches wherein the plurality of plies are sewn together at their upper ends and in a foot tip region (see figure 2: foot portions).

In regard to claim 45, Stelzmuller et al. teaches wherein the membrane is microporous (3a, 2a: polyurethane).

In regard to claim 48, Stelzmuller et al. teaches a lower leg protective apparel for providing protection from one of chemical and biological noxiants, the lower leg protective apparel having a plurality of plies and comprising: an outersock (1a); a laminate (2a, 3a), disposed on an inner side of the outersock (1a), comprising a flexible, windproof and water-rejecting membrane (3a, 2a) with the membrane (3a, 2a) being one of a polyester, a polyether and a mixture of a polyester and a polyether and which forms the outer surface of the laminate (3a, 2a) and which forms at least a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants (membrane being made of polyurethane, which is a flexible, windproof, water-rejecting member that forms a barrier to biological noxiants and at least a partial barrier to liquid

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chemical noxiants),

a carbon layer (4a) disposed underneath the membrane (3a,2a) and which comprises a fabric of one of a woven carbon fiber material and a loop-drawingly knit carbon fiber material and an inner textile ply (column 3, lines 1-8).

However, Stelzmuller et al. fails to teach wherein at least one of the outersock and the innersock is fabricated from a plurality of cuts, the seams between the cuts being sealed by a seam-sealing tape comprising a waterproof material.

Jones et al. teaches a protective garment that is formed of a plurality of cuts with seams being sealed off by a sealing tape, comprising a waterproof material (column 4, lines 57-63: figures 1).

In regard to claim 49, Stelzmuller et al. teaches wherein an active surface area of a carbon layer (4a) is in a range from 1000 to 1200 m<sup>2</sup>/g (column 5, lines 64-66).

In regard to claim 50, Stelzmuller et al. teaches a carbon layer.

However, Stelzmuller et al. fails to specifically teach the thickness range being from 0.2 to 1.0 mm.

With respect to the thickness of the carbon layer being .2 to 1.0 mm, one having ordinary skill in the art would be able through routine experimentation the desired thickness of a material layer based upon end use.

In regard to claim 53, Stelzmuller et al. teaches wherein the membrane is made of polyurethane, which is a flexible, windproof, water-rejecting member that forms a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants).

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However, Stelzmuller et al. fails to teach the membrane being made out of cellophane.

It would have been obvious to one having ordinary skill in the art to determine through routine experimentation the type of material for the membrane. As long as the membrane is made from a flexible, windproof, breathable, water-rejecting member, and forms a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants, the membrane can be chosen from many different materials, including cellophane and polyurethane.

In regard to claim 54, Stelzmuller et al. teaches wherein the membrane comprises one of polyvinyl alcohols, polyacrylamides or polyurethane (column 6, lines 21-42).

In regard to claim 58, Stelzmuller et al. teaches wherein the outersock (1a) comprises one of wool, cotton, silk, polyester, polypropylene, polyamide, polyacrylic and mixtures thereof (column 6, lines 21-23).

In regard to claim 59, Stelzmuller et al. teaches wherein the textile ply in the laminate is one of a woven and a loop-formingly knit fabric (column 6, lines 48-56)

In regard to claim 60, Stelzmuller et al. teaches wherein the ~~inside-leg part~~ innersock (3) is hydrophilic (column 6, lines 48-56).

In regard to claim 61, Stelzmuller et al. teaches wherein the ~~inside-leg part~~ innersock (3) is made of manufactured fibers (column 6, lines 48-56).

In regard to claim 62, Stelzmuller et al. teaches wherein the ~~inside-leg part~~



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innersock (6a) comprises one of nomex and viscose. However, it would have been obvious to one having ordinary skill in the art to have provided the material out of any suitable material including polypropylene polyamide, polyester and mixtures thereof, as desired.

In regard to claim 64, Stelzmuller et al. fails to teach wherein the inside ~~leg part~~ innersock (3) is stitched with a fleecy spun yarn to at least one of the other plies.

Jones et al. teaches the use of stitching plies together to form a protective garment.

However, neither Jones et al. or Stelzmuller et al. teach the yarn being a fleecy spun type.

It would have been obvious to an artisan having ordinary skill in the art through routine experimentation to determine the type of yarn suitable for stitching in a particular garment, based upon end use.

In regard to claim 71, Stelzmuller et al. teaches wherein the textile ply (9) is hydrophilic (column 6, lines 51-56).

It would have been obvious to have provided the protective carbon layered garment of Stelzmuller et al. with the garment having pieces sewn together and the seams sealed with waterproof tape of Jones et al., since the protective carbon layered garment of Stelzmuller et al. provided in pieces sewn together, as many protective garments are formed, additionally, with sealing tape over the seams would provide a garment with even greater protection to the user, since the seams are usually the

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weakest part of a protective garment. The seams being sealed with waterproof tape would further enhance the liquid and gas impermeability of the garment.

11. Claims 46, 47 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelzmuller et al. and Jones et al. as applied to claims 37 and 48 above, and further in view of Nomi (US 5,190,806).

Stelzmuller et al. and Jones et al. fail to teach the membrane being polytetrafluoroethylene.

In regard to claims 47 and 46, Stelzmuller et al. and Jones et al. teach garment as described above in claims 37 and 48 as described above.

However, Jones and Stelzmuller et al. fail to teach the flexible, windproof and water-rejecting membrane comprising a polytetrafluoroethylene membrane (column 2, lines 27-50).

Nomi teaches the flexible, windproof and water-rejecting membrane being a polytetrafluoroethylene in a carbon layered protective garment.

In regard to claim 55, Nomi teaches a layered garment wherein the carbon layer is provided with active spherules of carbon (3).

It would have been obvious to have provided to have provided the protective garment of Stelzmuller et al. and Jones et al. with the carbon spherules layer and the membrane being polytetrafluoroethylene of Nomi, since the protective garment of Stelzmuller et al. and Jones et al. provided with a carbon spherules layer and the membrane being made out of polytetrafluoroethylene would provide a layered carbon

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protective garment with carbon spherules that are effective to absorb gasses and a membrane that is breathable, yet resistant to water and wind.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and can be found cited in PTO-892 form submitted herewith.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alissa L. Hoey whose telephone number is (571) 272-4985. The examiner can normally be reached on M-F (8:00-5:30) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on (571) 272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alissa L. Hoey/  
Primary Examiner, Art Unit 3765